591.119

A-105

Cantor Fitzgerald

M-3 #1 1-11-85

DRAWING NUMBER 3 of 4

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HVAC SPECIFICATIONS

REQUIREMENTS

All mechanical work shall be free from defects in workmanship and materials for a period of one (1) year from date of final acceptance and shall meet all local and state codes. All defects, which develop or are discovered within this period shall be repaired by the Contractor to the satisfaction of the Engineer and at no additional cost.

GENERAL

1. The Contractor shall examine the site of the proposed work to determine the existing conditions that may affect his work.
2. It is the intention of the Contract Drawings and Specifications to call for finished work, tested and ready for operation. All materials shall be new and of first-quality.
3. All material, work, incidental accessories or other details not shown but necessary to make the work complete and perfect, and in all respects ready for operation, even if not particularly specified, shall be provided by the Contractor at no additional cost.
4. The Contract Drawings are generally diagrammatic and are intended to convey the scope of work and indicate general arrangement of ductwork, pouches, and induction units. Existing ducts, pipes, utilities, etc. that are damaged during the construction period, whether or not due to the Contractor's negligence, shall be repaired or replaced by the Contractor and left in a condition satisfactory to the Engineer
5. Coordinate locations of all pouches and diffusers with architectural reflected ceiling plans.
6. The space around pipes, ducts, etc. penetrating rated walls, shall not exceed 1/2" and shall be packed solid with Thermafiber or equivalent. Perimeter shall be closed off by light fitting metal escutcheons on both sides of this construction as required by Sections C26-504.5 of N.Y.C. Building Code.

DUCTWORK

1. All ductwork shall be furnished, installed and fabricated in accordance with the latest edition of the SMACNA Low and High Velocity Duct Construction Standards Manual, using prime sheets of galvanized steel. All square elbows shall be provided with turning vanes on maximum 4" centers Provide access doors at all fire and automatic dampers for access.
2. All branches and take-offs shall be equipped with volume controllers.
3. All finger ducts and flexible connectors shall be 7" diameter unless otherwise indicated on drawing.
4. Support horizontal ducts with hangers secured to structural steel above at intervals not exceeding 8'0". Install additional steel as required.
5. Flexible connectors to the supply duct and the diffuser plenum of ceiling pouches shall be sealed with 3M Co. 800 sealant and clamped with Stainless Steel Ideal Type 52 clamps.
6. All access doors shall be as per latest SMACNA Standards.
7. Light fixture air pouches shall be relocated and reconnected to match existing.
8. New light fixture air pouch and flexible connection shall match existing.

CEILING EXHAUST FAN-CEF#1

The Contractor shall furnish and install a ceiling exhaust fan in the location shown on the drawing. Fan shall be Penn Zegher Model Z-10-RA, 115 volts, 1 ph, 60 hz, 1.1 amp, net wt 36 lbs, 425 cfm at 0" S.P. or approved equal.

VIBRATION ELIMINATORS

Vibration hangers shall be HDA-GREEN (4 Req'd) as manufactured by Mason Industries or an approved equal.

FAN SUPPORTING REQUIREMENTS

1. All supporting steel shall conform to ASTM Designation A-36.
2. Patch existing beam fireproofing where removed.
3. All nuts must have lock washers.
4. Contractor shall field measure and verify existing conditions.
5. Paint all steel.

CEILING DIFFUSERS

Model numbers specified are manufactured by Anemostat-Waterloo or an approved equal. All finishes shall be baked white enamel.

1. Shall be Model DF with No 41 core pattern (4-way)
2. Shall be Model DF with No 31 core pattern (3-way)
3. Shall be Model DF with No 21 core pattern (2-way)

WATER COOLED AIR CONDITIONING UNIT

1. Furnish and install a packaged air conditioning unit. Unit shall be complete with temperature control, compressor, evaporator coil, condenser water regulating valve and other system components required to provide proper air conditioning for the space designated on the Contract Drawings. Filter shall be Class I, UL listed; 45% efficiency.
2. AC Unit shall be furnished with the following accessories;
   a) Condensate Pump
   b) Disconnect Switch
   c) Wall Mounted Control Box
3. Schedule

Unit No.	Blower CFM	Blower Motor H.P.	Blower Ext S.P.	Total Cooling Cap. (Btu) 80°DB 67° WB	Auxiliary Cooling Water GPM 85 Deg. F E.W.T.	Model No.	Total Wt(NET)
AC-9	920	1/6	.10"	26000	6.1 Gpm	5K25CM	300lbs.

   AC Unit motor shall be 1 phase and for 208 volts. (MEA No. 128-79)
4. The Unit shall be factory run, tested and rated in accordance with ARI Standards.
5. AC Unit shall be complete with water regulating valve. Valve shall be rated for 150 psi. working pressure. (VALVE SHALL CLOSE WHEN UNIT IS OFF.)
6. Unit shall be similar or equal to Koldwave Division of Heat Exchangers Inc. and rated at 150 lbs. working pressure.

PIPING AND ACCESSORIES

A. TEST REQUIREMENTS (Aux. Cooling Water)

Operating Pressure	150 PSIG
Operating Temperature	85 Deg. F - 95 Deg. F
Hydrostatic Test Pressure	1.5 x Operating Pressure
Duration of Test	2 hours

Isolate equipment, controls, instruments and valves from the piping system during hydrostatic tests

B. Piping & Fittings

System	Pipe	Fittings
Aux. Cooling Water	Black Steel Pipe, Conforming to ASTM A-53 Schedule #40 Grade B, Black Seamless	2-1/2" cast iron screwed 250 lb. class
A.C. Unit Condensate Drain	Copper ASTM B-88 Hard Temper Type (L)	Wrought Copper Solder Joint 5 ANSI B16.18

Vent auxiliary cooling water piping at all high points.

C. Accessories

1. Unions for auxiliary cooling water service shall be similar and equal to 250 lb. class, malleable iron with bronze seats, Grinnell Figure 554, U.L.
2. Nipples 6" length or less, shall be extra heavy and the material shall be the same as the pipe. Close nipples shall not be used.
3. Braided type flexible connector shall be Vibration Mounting and Control Inc., (VICO) Model MFP Style NE Max. 280 psig or approved equal.

D. Soldered Joints

95-5 Tin-Antimony Solder having a melting point greater than 450 F. Excess solder shall be removed while still in the moltin state with a fillet left at the face of the fitting.

E. Thermometers

1. Thermometers for piping shall be of the "all angle" (universal), separate socket, industrial type with #304 stainless steel extension neck wells.
2. The thermometer for auxiliary cooling shall operate at 0 - 160 Deg. F range and shall include a sufficient safety margin at either end.
3. Thermometers shall be as manufactured by Albert A. Weiss, Weksler Instrument Co., Ashcroft or approved equal.

F. Pressure Gauges

1. Pressure gauges shall be of the bourdon tube spring type with 4-1/2" diel sizes. Gauges shall have black aluminum cases with black numbers on white background The gauges shall be as manufactured by Albert A. Weiss, Weksler Instrument Co. Ashcroft or approved equal.

G. Strainers. Mueller No. 11 250 lbs. class screwed

H. Hang piping as follows:

1"	9 ft. o.c.	3/8" Dia. rods.
1 1/2"	9 ft. o.c.	1/2" Dia. rods.

Support from building steel.

AC UNIT SUPPORT REQUIREMENTS

Patch existing fire proofing damaged or removed during installation to match w/ existing

WATER SENSING SYSTEM

Dorlen Model #RI-2 (T) wall mounted annunciator/ controller alarm panel.

INSULATION

Insulate condensate drain line w/ 1/2" pre molded piping insulation. Flame spread "25" Smoke developed "50".

SUBMITTALS

Submit for approval three (3) sets of shop drawings of ductwork, and piping. Submit three sets of catalog cuts for AC unit, piping accessories, diffusers, grilles, fans, etc., and three copies of air balancing data report.

EXECUTION

Co-ordinate installation schedule w/ Engineer and WTC Operations.

CONTRACTORS NOTES

1) THE CONTRACTOR SHALL SUBMIT (TO THE PA RESIDENT ENGINEER) A COPY OF THE BSCA OR MEA RESOLUTIONS OF APPROVAL REQUIRED FOR EQUIPMENT AND MATERIALS PRIOR TO THEIR INSTALLATION.

TCA/TAA NO. 3104
CONTRACT NO. 591.119
DATE APPROVED 1/28/85

REV 1	1-16-85	AS PER PA COMMENTS

NEW CORPORATE BOND TRADING FLOOR
CANTOR FITZGERALD SECURITIES CORP
ONE WORLD TRADE CENTER FLOOR 105
NEW YORK, N.Y. 10048

MECHANICAL SPECIFICATIONS

JOHN C. WESTRICK & ASSOCIATES
CONSULTING ENGINEERS
2110 MAPLE AVENUE
SOUTH PLAINFIELD, N.J. 07080

JOB # 84-47
CHK BY
SCALE
DATE

BEST COPY AVAILABLE

REVERSE DWG